What is claimed is:

1. A method of producing porous graphite, comprising the steps of:

introducing pitch into a mold, the pitch having a characteristic boiling point at a given pressure and for a given temperature;

purging air from the mold;

pressurizing the pitch between a preselected initial processing pressure and a relatively lower final processing pressure, the preselected initial pressure serving to increase the boiling point of the pitch above the boiling point at the final processing pressure;

heating the pitch while at the initial processing pressure to a temperature below the solidification point but above the boiling point which typically occurs at the final processing pressure;

depressurizing the pitch from the initial processing pressure to the final processing pressure while maintaining the process temperature above the typical boiling temperature at the final pressure to thereby produce a porous artifact;

heating the porous artifact to a temperature that solidifies and cokes the porous artifact to form a solid, porous carbon; and

cooling the solid, porous carbon artifact to room temperature with a simultaneous release of pressure.

heating the solid, porous carbon to a temperature between 900°C and 1100°C to completely carbonize the artifact; and

heating the solid porous carbon artifact to a temperature between 2500°C and 3200°C to graphitize the artifact thus producing a porous graphite artifact.

2. The method of claim 1, wherein the pitch introduced into the mold is selected from the group consisting of granulated pitches, powdered pitches and pelletized pitches.

3. The method of claim 1, wherein the pitch is selected from the group consisting of mesophase and isotropic pitches and mixtures thereof.

4. The method of claim 3, wherein the pitch is a mesophase pitch selected from the group consisting of synthetic pitches, coal based pitches, petroleum based pitches and mixtures thereof.

5. The method of claim 1, wherein the initial processing pressure is greater than 1000 psi.

6. The method of claim 1, wherein the initial processing pressure is more than twice the final processing pressure.

7. The method of claim 1, wherein the final processing pressure is greater than 1000 psi.

8. A method of producing solid, high thermally conductive porous graphite, comprising the steps of:

introducing pitch into a mold, the pitch having a characteristic boiling point at a given pressure and for a given temperature;

purging air from the mold;

pressurizing the pitch between a preselected initial processing pressure and a relatively lower final processing pressure, the preselected initial pressure serving to increase the boiling point of the pitch above the boiling point at the final processing pressure;

heating the pitch while at the initial processing pressure to a temperature below the solidification point but above the boiling point which typically occurs at the final processing pressure;

depressurizing the pitch from the initial processing pressure to the final processing pressure while maintaining the process temperature above the typical boiling temperature at the final pressure to thereby produce a porous artifact;

heating the porous artifact to a temperature that solidifies and cokes the porous artifact to form a solid, porous carbon; and

cooling the solid, porous carbon artifact to room temperature with simultaneous release of pressure;

heating the solid, porous carbon to a temperature between 900°C and 1100°C to completely carbonize the artifact; and

heating the solid porous artifact to a temperature between 2500°C and 3200°C to graphitize the artifact thus producing a porous graphite artifact having a thermal conductivity greater than about 150 W/mK and a density greater than foam.

9. The method of claim 8, wherein the initial processing pressure is greater than 1000 psi.

10. The method of claim 8, wherein the initial processing pressure is more than twice the final processing pressure.

11. The method of claim 8, wherein the final processing pressure is greater than 1000 psi.

12. The method of claim 8, wherein the initial processing pressure is selected to be at least 8000 psi.

13. The method of claim 8, wherein the final processing pressure is selected to be at least 2000 psi.

14. The method of claim 8, wherein the porous graphite artifact so produced has a density greater than 0.678g/cc.

15. The method of claim 8, wherein the porous graphite artifact so produced has a thermal conductivity greater than 200 W/mK.

16. The method of claim 8, wherein the mold is pressurized in a vessel to an initial pressure between 4,000 to 30,000 psig with an inert gas.

17. The method of claim 16, wherein the pitch within the mold is heated from room temperature to a melting temperature between 250 and 350°C at a rate between 1.0 and 10.0°C per minute.

18. The method of claim 17, wherein the pitch is then held between 250 and 450°C for up to 4 hours.

19. The method of claim 18, wherein the vessel is depressurized from the initial processing pressure to the final processing pressure at a rate between 50 and 700 psig per minute while maintaining the pre-depressurization temperature.

20. The method of claim 19, wherein, after depressurization, the porous artifact is heated from the pre-depressurization temperature to a temperature between 400 and 800°C at a rate between 1.0 and 10.0°C per minute.

21. The method of claim 20, wherein the artifact is held between 400 and 800°C for up to 4 hours.

22. The method of claim 21, wherein the artifact is cooled from between 400 and 800°C to room temperature at a rate between 1.0 and 30°C per minute.

23. A solid, high thermally conductive porous graphite having a thermal conductivity greater than 150 W/mK and a density greater than 0.678g/cc.

24. A solid, high thermally conductive porous graphite having a thermal conductivity greater than 150 W/mK and a density greater than a graphite foam.

25. A solid, high thermally conductive porous graphite having a thermal conductivity greater than 150 W/mK and having a density which ranges between 0.678g/cc and 1.5g/cc.